Fudge It!

by Don Fudge

Fontastic!

In this column I'll describe how to use SUPERFONT, a hi-res character generator that produces characters anywhere from 15-by-15 to 180- by-180 in size, of any color, and in seven or more styles. Included with SUPERFONT (Listing 1) are three other files: CHAR (Listing 2), SCROLL!! (Listing 3) and RE-TRIEVE (Listing 4).

The CHAR file produces a totally "scale-able" and rotatable vector

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Listing 1. SUPERFONT.

```
0   HIMEM: 36095
1   GOTO 10
2   FOR OH = 1 TO 5:PP =  PEEK ( - 16336): NEXT :CR = 8: GOTO 46
3   DRAW 52 AT X,Y:A = 52: GOTO 45
10  ONERR  GOTO 63995
11  GOSUB 12: GOTO 25
12  POKE 768,160: POKE 769,0: POKE 770,76: POKE 771,44: POKE 772,254: RETURN

25  IF GT46 = 1 THEN 38
30  PRINT  CHR$ (4);"BLOADCHAR"
35  POKE 232,0: POKE 233,141
38  PRINT  CHR$ (4);"BLOADSCROLL!!"
40  HGR : POKE  - 16302,0: HCOLOR= 3: ROT= 64: SCALE= 1:S = 1
41  IF GT46 = 0 THEN  8E = 1: GOSUB 13000:BE = 0
42  X =  - 19:Y = 20:OY = 20:OX = 1:HH = 3:CR = 1:GT46 = 0
43  HOME : IF SS = 0 THEN  DIM TF$(26): FOR HH = 1 TO 25:TF$(HH) =  CHR$ (
        64 + HH): NEXT :SS = 1
45  GOTO 10080
46  ST = S: SCALE= 1: XDRAW 51 AT X,Y:S = ST: SCALE= S: IF CR = 0 THEN ST =
        S: SCALE= 1: XDRAW 51 AT OX,OY:S = ST: SCALE= S
47  PK =  PEEK ( - 16384): IF PK > 127 THEN  POKE  - 16368,0: GOTO 49
48  GOTO 47
49  IF EE = 1 AND PK <  > 153 THEN I = 1: IF PK <  > 144 AND PK <  > 155 TNEN
        X = 1:Y = 120 + (S + 20):EE = 0
50  OX = X:OY = Y: SCALE= S: ROT= 64:CR = 0
59  K = PK - 154: IF K < 0 TNEN  KK =  ABS (K):K = 0
60  ON K GOTO 91,2,2,2,2,94,97,238,2,248,2,2,3,258,260,2,270,280,290,300,3
        18,320,330,340,350,360,370,380,390,400,410,420,430,2,440,2,450,2,460,
        478,480,490,500,518,520,530,540,550,560,570,580,590,600,610,620,630,6
        40,650,660,670,680,690,700,710
61  IF K = 0 THEN CR = 1: GOTO 70
63  IF F = 0 AND PK = 222 THEN PK = 0: GOSUB 11000: GOTO 46
64  IF PK = 221 AND F = 0 TNEN F = 1:PK = 8: GOTO 46
65  IF F > 0 AND PK > 220 TNEN F = 0:PK = 0: GOTO 46
70  ON KK GOTO 12000,72,2,2,86,74,76,08,2,24000,13000,2,78,2,2,2,2,88,2,02
        ,2,84
71  GOTO 2
72  ST = S: SCALE= 1: XORAW 51 AT OX,OY: CALL 62450: CLEAR :S = 1: SCALE= S
        :CR = 1:HH = 3: HCOLOR= HH: ROT= 64:X = 1:Y = 20
73  GOTO 46
74  Y = Y - (28 + S): IF Y < 28 TNEN Y = 28
75  GOTO 2000
76  GOTO 3888
78  X = 1:Y = Y + (20 + S): IF Y > 191 THEN Y = S + 20: CALL 62450:G$ =  CHR$
        (7): PRINT G$: GOTO 46
79  G$ =  CHR$ (7): PRINT G$: GOTO 2000
80  X = X - (20 + S): IF X < 1 THEN X = 281 - (20 + S):Y = Y - (20 + S): IF
        Y < (20 + S) THEN  FOR OH = 1 TO 20:PP =  PEEK ( - 16336): NEXT :G$ =
        CHR$ (7): PRINT G$:Y = Y + (20 + S):X = 1
81  GOTO 2808
82  GOSUB 4800: GOTO 2000
84  Y = Y + (20 * S): IF Y > 180 THEN Y = 188
85  GOTO 2000
86  X = X + (20 + S): IF X > 261 THEN X = 1:Y = Y + (20 + S): IF Y > 190 THEN
        EF = 1:CR = 0: GOSUB 12000: GOTO 46
87  CR = 0: GOTO 46
88  GOTO 5000
91  GOSUB 900: GOTO 46
94  GOTO 86
97  ORAW 29 AT X,Y:A = 29: GOTO 45
230  DRAW 35 AT X,Y:A = 35: GOTO 45
240  DRAW 38 AT X,Y:A = 38: GOTO 45
```

Listing 1 continued.

Listing 2. CHAR.

```
*8000.9500

8000- 34 00 6E 80 A5 00 E5 00
8008- 13 01 46 01 77 01 9C 01
8010- CF 01 F8 01 21 82 43 82
8018- 74 02 91 82 C1 02 F2 02
8020- 25 83 55 03 8D 83 C6 03
8028- 80 04 1F 04 49 04 71 04
8030- A1 04 D2 04 F5 04 26 05
8038- 2D 05 35 05 4B 05 76 05
8048- 87 05 A5 05 C4 05 E1 05
8048- F7 05 06 06 14 06 5D 06
8050- 79 06 94 06 BB 06 F2 06
8058- 28 07 58 07 88 87 C4 87
8060- E8 87 2B 08 6A 08 B6 08
8068- 88 08 FF FF FF FF 24 24
8070- 24 24 24 24 25 25 2D 2D
8078- 2D 2D 2D 2E 2E 36 36 36
8080- 36 36 36 3F 24 24 24 3F
8088- 3F 3F 3F 3F 36 36 36 3F
8090- 08 40 41 C0 18 20 24 25
8098- 20 2D 20 2D 2E 36 3E 3F
80A0- 3F 3F 3F 07 00 24 24 24
80A8- 24 24 24 24 2D 2D 2D 2D
80B0- 20 2D 2E 2E 36 3E 3E 36
80B8- 35 35 36 37 37 3F 3F 3F
80C0- 3F 3F 3F 41 28 2D 20 2D
80C8- 2D 2C 3C 3C 3C 3F 3F 3F
80D0- 37 36 46 40 C0 28 20 2D
80D8- 20 2C 2C 3C 3C 3F 3F 3F
80E0- 3F 36 36 05 00 09 2D 2D
80E8- 20 2D 2D 2C 2C 24 3F 3E
80F0- 3E 3F 3F 3F 27 27 24 24
80F8- 24 2C 2C 2D 2D 20 35 35
8E00- 20 24 27 27 3F 3F 3F 3F
8E08- 3F 3E 3E 36 36 36 36 36
8E10- 35 35 00 2D 2D 20 20 2D
8E18- 20 2C 2C 24 24 24 24 24
8E20- 27 27 3F 3F 3F 3F 3F 3F
8E28- 36 36 36 36 36 36 36 40
8E30- 81 2D 2D 2D 2D 25 25 24
8E38- 24 24 3C 3C 3F 3F 3F 3F
8E40- 36 36 36 36 36 00 20 2D
8E48- 2D 2D 2D 2D 2D 24 3F 3F
8E50- 3F 3F 3F 3F 24 24 20 2D
8E58- 20 20 24 3F 3F 3F 3F 24
8E60- 24 2D 2D 2D 2D 2D 20 24
8E68- 3F 3F 3F 3F 3F 3F 3F 36
8E70- 36 36 36 36 36 36 00 2D
8E78- 24 24 24 2D 2D 2D 2D 24
8E80- 3F 3F 3F 3F 24 24 2D 2D
8E88- 2D 2D 2D 2D 24 3F 3F 3F
8E90- 3F 3F 3F 3F 36 36 36 36
8E98- 36 36 36 00 09 2D 2D 2D
9EA0- 2D 2D 2C 2C 24 24 3F 3F
9EA8- 37 2E 2D 3E 3E 3F 3F 3F
```

Listing 2 continued.

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shape table for all numbers and letters, and many symbols as well. These shapes, 52 in all, can be DRAWn, XRAWn, SCALEd, ROTated or HCOLORed in your own programs.

Vector shapes often do not scale up (increase in size) cleanly. The reason is that most people use at least a few move-only commands (without plotting) in their shapes, or, with programs like my Super Shape Draw and Animate, they use diagonal plot-

Listing 1 continued.

```
250   DRAW 39 AT X,Y:A = 39: GOTO 45
260   DRAW 40 AT X,Y:A = 40: GOTO 45
270   DRAW 33 AT X,Y:A = 33: GOTO 45
280   DRAW 28 AT X,Y:A = 28: GOTO 45
290   DRAW 31 AT X,Y:A = 31: GOTO 45
300   DRAW 27 AT X,Y:A = 27: GOTO 45
310   DRAW 34 AT X,Y:A = 34:CA = 1: GOTO 45
320   DRAW 50 AT X,Y:A = 50:CR = 1: GOTO 45
330   DRAW 41 AT X,Y:A = 41:CA = 1: GOTO 45
340   DRAW 42 AT X,Y:A = 42:CA = 1: GOTO 45
350   DRAW 43 AT X,Y:A = 43: GOTO 45
360   DRAW 44 AT X,Y:A = 44: GOTO 45
370   DRAW 45 AT X,Y:A = 45: GOTO 45
380   DRAW 46 AT X,Y:A = 46: GOTO 45
390   DRAW 47 AT X,Y:A = 47: GOTO 45
400   DRAW 48 AT X,Y:A = 48: GOTO 45
410   DRAW 49 AT X,Y:A = 49: GOTO 45
420   DRAW 37 AT X,Y:A = 37: GOTO 45
430   DRAW 36 AT X,Y:A = 36: GOTO 45
440   DRAW 32 AT X,Y:A = 32: GOTO 45
450   DRAW 30 AT X,Y:A = 30: GOTO 45
460   DRAW 1 AT X,Y:A = 1:CR = 1: GOTO 45
470   DRAW 2 AT X,Y:A = 2:CR = 1: GOTO 45
480   DRAW 3 AT X,Y:A = 3: GOTO 45
490   DRAW 4 AT X,Y:A = 4:CR = 1: GOTO 45
500   DRAW 5 AT X,Y:A = 5:CR = 1: GOTO 45
510   DRAW 6 AT X,Y:A = 6:CR = 1: GOTO 45
520   DRAW 7 AT X,Y:A = 7: GOTO 45
530   DRAW 8 AT X,Y:A = 8:CR = 1: GOTO 45
540   DRAW 9 AT X,Y:A = 9:CR = 1: GOTO 45
550   DRAW 10 AT X,Y:A = 10: GOTO 45
560   DRAW 11 AT X,Y:A = 11:CA = 1: GOTO 45
570   DRAW 12 AT X,Y:A = 12:CR = 1: GOTO 45
580   DRAW 13 AT X,Y:A = 13:CA = 1: GOTO 45
590   DRAW 14 AT X,Y:A = 14:CA = 1: GOTO 45
600   DRAW 15 AT X,Y:A = 15: GOTO 45
610   DRAW 16 AT X,Y:A = 16:CR = 1: GOTO 45
620   DRAW 17 AT X,Y:A = 17: GOTO 45
630   DRAW 18 AT X,Y:A = 18:CA = 1: GOTO 45
640   DRAW 19 AT X,Y:A = 19: GOTO 45
650   DRAW 20 AT X,Y:A = 20: GOTO 45
660   DRAW 21 AT X,Y:A = 21: GOTO 45
670   DRAW 22 AT X,Y:A = 22: GOTO 45
680   DRAW 23 AT X,Y:A = 23:CR = 1: GOTO 45
690   DRAW 24 AT X,Y:A = 24:CA = 1: GOTO 45
700   DRAW 25 AT X,Y:A = 25: GOTO 45
710   DRAW 26 AT X,Y:A = 26:CA = 1: GOTO 45
800   IF F > 0 THEN  GOSUB 1000
805   X = X + (20 * S): IF X > 281 - (20 * S) THEN X = 1:Y = Y + (20 * S): IF
      Y > 190 THEN Y = Y - (20 * S):EE = 1:EF = 1: GOTO 12000
810   GOTO 46
900   POKE  - 16303,0: POKE  - 16298,0
901   HOME : VTAB 1: PRINT "CHOOSE A COLOR OR SCALE:": PRINT : PRINT "(FOR
      SCALE, CHOOSE 1-9 AND MAKE SURE   YOU'RE POSITIONED CORRECTLY)": PRINT
902   PRINT : PRINT "'B' = BLACK 1                    'G' = GREEN        N'
                               'V' = VIOLET
      = WHITE 1                          'L  = BLACK 2
             'O' = ORANGE"
903   PRINT "'U' = BLUE                         'H' = WHITE 2"
904   PE =  PEEK ( - 16384): IF PE > 127 THEN  POKE  - 16368,0: GOTO 906
905   GOTO 904
906   IF PE = 214 THEN  HCOLOR= 2:HH = 2: GOTO 990
910   IF PE = 194 THEN  HCOLOR= 0:HH = 0: GOTO 990
915   IF PE > 176 AND PE < 186 THEN S = PE - 176: SCALE= S: GOTO 990
920   IF PE = 199 THEN  HCOLOR= 1:HH = 1: GOTO 990
930   IF PE = 215 THEN  HCOLOR= 3:HH = 3: GOTO 990
940   IF PE = 204 THEN  HCOLOR= 4:HH = 4: GOTO 990
950   IF PE = 207 THEN  HCOLOR= 5:HH = 5: GOTO 990
960   IF PE = 213 THEN  HCOLOR= 6:HH = 6: GOTO 990
970   IF PE = 200 THEN  HCOLOR= 7:HH = 7: GOTO 990
980   FOR QH = 1 TO 20:PP =  PEEK ( - 16336): NEXT : FOR QH = 1 TO 20:PP =
      PEEK ( - 16336): NEXT : FOR QH = 1 TO 20:PP =  PEEK ( - 16336): NEXT
      : GOTO 900
990   POKE  - 16304,0: POKE  - 16297,0: HOME :XC =  FRE (0): RETURN
1000  ON F GOTO 1001,1003,1004,1005,1010,1015,1020
1001  TX = X:TY = Y:X = 0:Y = 0: FOR X = TX TO TX + (S + (S * (S - 1))): FOR
      Y = TY TO TY - (S + (S * (S - 1))) STEP  - 1: DRAW A AT X,Y: NEXT : NEXT
      :X = TX:Y = TY: RETURN
1003  DRAW A AT X,Y: DRAW A AT X + 2,Y - 2: RETURN
```

Listing 1 continued.

Listing 2 continued.

```
8EB0-  27 27 24 24 24 2C 2C 20
8EB8-  2D 2D 35 35 2D 24 27 27
8EC0-  3F 3F 3F 3F 3F 3E 3E 36
8EC8-  36 36 36 36 35 00 20 2D
8ED0-  24 24 24 2D 20 2D 2D 20
8ED8-  36 36 36 20 24 24 24 24
8EE0-  24 24 24 3F 36 36 36 24
8EE8-  3F 3F 3F 3F 24 24 24 3F
8EF0-  36 36 36 36 36 36 36 00
8EF8-  2D 2D 2D 2D 2D 2D 2D 24
8F00-  3F 3F 3F 24 24 24 24 24
8F08-  20 2D 20 24 3F 3F 3F 3F
8F10-  3F 3F 3F 36 2D 2D 2D 36
8F18-  36 36 36 3F 3F 3F 3F 36
8F20-  00 09 2D 2D 2D 2D 2D 2C
8F28-  2C 24 24 24 24 24 24 3F
8F30-  36 36 36 36 36 3E 3E 3F
8F38-  3F 3F 27 27 24 3F 36 36
8F40-  35 35 00 2D 24 24 2C 2E
8F48-  35 20 2E 35 20 2E 2D 24
8F50-  3F 3C 27 3F 3C 27 3F 24
8F58-  20 2C 25 20 2C 25 2D 24
8F60-  3F 37 3F 3E 37 3F 3E 37
8F68-  27 24 24 3F 36 36 36 36
8F70-  36 36 36 00 2D 2D 2D 20
8F78-  2D 2D 20 24 3F 3F 3F 3F
8F80-  3F 3F 24 24 24 24 24 24
8F88-  3F 36 36 36 36 36 36 36
8F90-  00 2D 24 24 24 24 24 35
8F98-  35 35 35 20 2C 2C 2C 2C
8FA0-  36 36 36 36 36 2D 24 24
8FA8-  24 24 24 24 24 3F 3E 3E
8FB0-  3E 3E 3E 27 27 27 27 27
8FB8-  3F 36 36 36 36 36 36 36
8FC0-  00 2D 24 24 24 24 24 35
8FC8-  35 35 35 35 35 35 35 35
8FD0-  35 2D 24 24 24 24 24 24
8FD8-  24 3F 36 36 36 36 36 27
8FE0-  27 27 27 27 27 27 27 27
8FE8-  27 3F 36 36 36 36 36 36
8FF0-  36 00 09 2D 2D 2D 2D 2D
8FF8-  2C 2C 24 24 24 24 24 27
9000-  27 3F 3F 3F 3F 3E 3E
9008-  36 36 36 36 36 35 35 40
9010-  2D 2D 2D 2D 2C 24 24 24
9018-  24 27 3F 3F 3F 3F 3E 36
9020-  36 36 36 35 00 2D 24 24
9028-  24 2C 20 2D 2D 20 20 25 25
9030-  25 24 27 27 3F 3F 3F 3F
9038-  3F 3F 36 36 36 36 36 36
9040-  36 00 48 40 C0 C0 28 2D
9048-  2D 2D 2D 2C 3C 3C 3F 3F
9050-  3F 3F 36 06 00 09 2D 2D
9058-  2D 2D 2C 2E 20 3C 2C 24
9060-  24 24 24 24 27 27 3F 3F
9068-  3F 3F 3F 3E 3E 36 36 36
9070-  36 36 35 35 40 2D 20 20
9078-  3C 24 2D 2E 2E 24 24 24
9080-  24 27 3F 3F 3F 3F 3E 36
9088-  36 36 36 35 00 2D 24 24
9090-  24 2C 2D 2D 2D 35 36 36
9098-  36 2D 24 24 24 24 25 25
90A0-  24 07 3C 3C 3F 3F 3F 3F
90A8-  3F 37 36 36 36 36 36 36
90B0-  0E 40 41 C0 C0 10 08 20
90B8-  2D 2D 2D 05 2C 3C 3C 3F
90C0-  3F 3F 3F 36 06 00 09 2D
90C8-  2D 2D 2D 20 2C 2C 24 24
90D0-  27 27 3F 3F 3F 3F 27 27
90D8-  2C 2C 2D 2D 2D 35 35 20
90E0-  24 27 27 3F 3F 3F 3F 3F
90E8-  3E 3E 36 36 35 35 2D 2D
90F0-  2D 2D 35 35 3E 3E 3F 3F
90F8-  3F 27 27 3F 36 35 35 00
9100-  49 49 2D 24 24 24 24 24
9108-  24 2D 2D 20 24 3F 3F 3F
9110-  3F 3F 3F 3F 36 2D 2D 2D
9118-  36 36 36 36 36 00 09
9120-  2D 2D 2D 2D 2D 2C 2C 24
```

Listing 2 continued.

```
Listing 1 continued.

 1004  Z = 0: FOR Q = 1 TO 5: DRAW A AT X + Z,Y - Z:Z = Z + 1: NEXT : RETURN
 1005  DRAW A AT X,Y: DRAW A AT X + 2,Y - 2: DRAW A AT X + 4,Y - 4: RETURN
 1010  TX = X:TY = Y:X = 0:Y = 0: FOR X = TX TO TX + (S + 1): FOR Y = TY TO
       TY - (S + 1) STEP  - 1: DRAW A AT X,Y: NEXT : NEXT :X = TX:Y = TY: RETURN
 1015  DRAW A AT X,Y: DRAW A AT X + 1,Y: DRAW A AT X + 2,Y: RETURN
 1020  DRAW A AT X,Y: DRAW A AT X + 1,Y - 1: DRAW A AT X + 2,Y - 2: RETURN
 1500  POKE 103,1: POKE 104,8: POKE 2048,0
 1510  HIMEM: 38400
 1520  PRINT  CHR$ (4);"RUNMAILING LABEL & FILING SYSTEM"
 2000  ST = S: SCALE= 1: XDRAW 51 AT OX,OY:S = ST: SCALE= S
 2010  GOTO 46
 3000  CLEAR :S = 1: SCALE= S:NH = 3: HCOLOR= HH: ROT= 64:X = 1:Y = 20:CR =
       1: DIM A(127),B(127),SC(127),CL(127),SH(127),F(127):SU = 1: CALL 6245
       : 0: GOTO 46
 4000  SU = 0: GOSUB 10016: RETURN
 5000  D$ =  CHR$ (4)
 5010  PRINT D$"RUNRETRIEVE"
 9000  HOME : TEXT : VTAB 1: PRINT "NOW TYPE THE CTRL CHARACTERS (OR WHAT-
       EVER) THAT DUMP THE HI-RES SCREEN ONTO  YOUR PRINTER. IF YOUR PRINTE
       R DOESN'T DOTHIS THEN DON'T HIT CTRL P IN THIS PROG.": PRINT
 9010  PRINT "MAKE SURE YOU HIT RETURN ONCE YOU'RE    DONE TYPING ALL THE C
       TRL CHARACTERS:": PRINT :A9 = 0
 9015  PRINT "IF YOU'VE NO PRINTER WITH HI-RES CAPACI-TY HIT RETURN NOW.": PRINT
 9020  A9 = A9 + 1: GET CR$(A9): IF  ASC (CR$(A9)) <  > 13 THEN 9020
 9030  PRINT  CHR$ (13): POKE  - 16297,0: RETURN
 10000 IF SU = 1 AND (PK < 219 AND PK > 160) THEN N = N + 1: GOTO 10010
 10001 GOTO 800
 10010 A(N) = X:B(N) = Y:SC(N) = S:CL(N) = HH:SH(N) = A:F(N) = F
 10015 IF N = 126 THEN N = 0:NB = 126: GOTO 10025
 10016 IF SU = 0 THEN NB = N: POKE  - 16303,0: POKE  - 16298,0: GOTO 10025
 10020 GOTO 800
 10025 POKE  - 16303,0: POKE  - 16298,0
 10030 HOME : VTAB 1: INPUT "WHICH DO YOU WANT?(A-Y):",AN$
 10031 IF  ASC (AN$) < 65 OR  ASC (AN$) > 89 THEN 10030
 10032 NN =  ASC (AN$) - 64
 10034 IF SS = 0 THEN  DIM TF$(26): FOR HH = 1 TO 25:TF$(HH) =  CHR$ (64 +
       HH): NEXT :SS = 1
 10038 D$ =  CHR$ (4): CALL 1002: FLASH : HOME : TEXT : VTAB 1: PRINT "PLEA
       SE SWITCH NOW TO YOUR OWN INITIAL-  IZED DISK TO STORE YOUR CREATION
       ON": NORMAL : GOSUB 63000
 10039 IF NN < 1 OR NN > 25 THEN 800
 10040 PRINT D$"OPEN";TF$(NN)
 10043 PRINT D$"DELETE";TF$(NN)
 10046 PRINT D$"OPEN";TF$(NN)
 10050 PRINT D$"WRITE";TF$(NN)
 10055 PRINT NB
 10060 FOR QH = 1 TO NB
 10070 PRINT A(QH): PRINT B(QH): PRINT SC(QH): PRINT CL(QH): PRINT SH(QH):
       PRINT F(QH): NEXT
 10080 PRINT D$"CLOSE"
 10082 HOME
 10083 VTAB 10: FLASH : PRINT "PLEASE SWITCH BACK TO THE PROGRAM DISK   NOW
       ": NORMAL : GOSUB 63000
 10085 POKE  - 16304,0: POKE  - 16297,0
 10088 FLASH : VTAB 1: PRINT "PLEASE SWITCH BACK TO THE PROGRAM DISK   NOW"
       : NORMAL : GOSUB 63000
 10090 GOTO 805
 11000 HOME : POKE  - 16303,0: POKE  - 16298,0
 11010 PRINT "WHICH STYLE DO YOU WANT?": PRINT
 11020 PRINT "(1-7):"
```
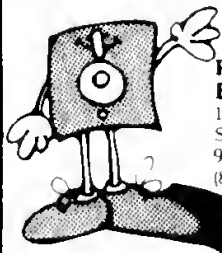
Listing 1 continued.

ting. Now, diagonal plotting is a great asset to a drawing program, as are move-only moves, but both are no-no's if you're going to be scaling up. So the CHAR characters were created (by Mary Carol Smith, president of Avant-Garde) with the plotter remaining on. Use CALL – 151 before typing in CHAR and A$8D00, L$8D0 as the BSAVE information.

The SCROLL!! routine moves everything on the hi-res screen up 64 hi-res lines once the screen fills with characters. Thus you can type forever without running out of space. Once again, use CALL – 151 before typing SCROLL!! in and A2048, L176 to BSAVE.

RETRIEVE allows you to recreate SUPERFONT compositions that have been saved as text files.

Before I discuss the SUPERFONT listing, I must mention one vital piece of information about making SUPERFONT and/or RETRIEVE work: *Before you can use either program you must do the following POKEs:*

POKE 104,96: POKE 24576,0

It doesn't matter if the POKEs are in the Hello program that runs when the disk boots (after which RUN SU

Listing 1 continued.

```
11030  F = PEEK ( - 16304): IF F > 176 AND F < 104 THEN F = F - 176: POKE
       - 16368,0: GOTO 11100
11040  GOTO 11030
11100  POKE  - 16304,0: POKE  - 16297,0
11200  RETURN
12000  ST = S: SCALE= 1: XDRAW 51 AT OX,OY:S = ST: SCALE= S
12002  GOSUB 12: CALL 2048
12072  EE = 0
12073  IF EF = 1 AND CR < > 1 THEN EF = 0:ST = S: SCALE= 1: XDRAW 51 AT O
       X,OY:S = ST: SCALE= S:X = 1: GOSUB 39000: GOTO 46
12074  X = 1: GOSUB 39000: IF Y > 180 THEN Y = 180
12075  GOTO 46
13000  POKE  - 16303,0: POKE  - 16298,0
13010  HOME : VTAB 1: PRINT "HERE ARE THE COMMANDS:": PRINT
13020  PRINT "CTRL D MOVES YOU DOWN          CTRL T MOVES YOU UP
       (TOWARDS TOP)          CTRL X ERASES & RESTARTS YOU          CTRL Y SC
       ROLLS SCREEN 0Y 3 LINES          CTRL S STARTS SAVING YOUR CREATION  "
13030  PRINT "(AUTOMATIC SAVE IF YOU FILL SCREEN)          CTRL F SAVES YOUR CR
       EATION (FINISHED)    CTRL R RETRIEVES A SAVED CREATION": FLASH : PRINT
       "CTRL O LETS YOU SEE THE COMMAND OPTIONS": NORMAL
13040  PRINT "(-->) AND <-- AND 'SPACE' WORK AS ON A     TYPEWRITER, & SO D
       OES 'RETURN' ---     WHICH IS CARRIAGE RETURN "
13050  PRINT "ESC LETS YOU CHANGE COLOR OR SCALE     REPT LETS YOU REPEAT
       SHIFT M GIVES STYLE #1 LETTERS          SHIFT N L
       ETS YOU CHOOSE LETTER STYLE"
13051  PRINT "2ND HIT OF SHIFT M OR N MEANS BACK TO     REGULAR LETTERS A6
       AIN"
13052  PRINT "CTRL P MEANS PRINT OUT HI-RES SCREEN ON     A PRINTER"
13055  PRINT
13060  PH = PEEK ( - 16384): IF PH > 127 AND PH < > 1SS THEN POKE  - 163
       68,0: GOTO 13999
13065  IF PH = 15S THEN 13075
13070  GOTO 13060
13075  POKE 103,1: POKE 104,8: POKE 2048,0
13080  HIMEM: 38400
13082  CALL 1002
13085  PRINT  CHR$ (4);"RUN*HELLO"
13999  POKE  - 16304,0: POKE  - 16297,0: HOME : IF 0E = 1 THEN  RETURN
14000  GOTO 2000
24000  D$ =  CHR$ (4)
24002  POKE  - 16303,0: POKE  - 16298,0
24005  GOSUB 9000: IF  ASC (CR$(1)) = 13 THEN 2000
24010  PRINT D$"PR#1"
24020  FOR H9 = 1 TO A9: PRINT CR$(H9);: NEXT
24025  PRINT D$"PR#0"
24030  GOTO 2000
39000  IF Y < (S + 20) THEN Y = S * 20: RETURN
39002  ON S GOTO 39010,39020
39005  RETURN
39010  Y = OY - 40: GOTO 39050
39020  Y = OY - 20
39050  IF Y < (S + 20) THEN Y = S * 20
39060  RETURN
63000  PRINT : PRINT "(HIT ANY KEY TO CONTINUE):": PRINT
63010  PP = PEEK ( - 16384): IF PP > 127 THEN POKE  - 16360,0: RETURN
63020  GOTO 63010
63995  QP = PEEK (222): POKE 216,0
63999  G$ =  CHR$ (7): PRINT G$: PRINT G$: GOTO 2000
```

PERFONT occurs immediately), or if you do them in immediate mode before running SUPERFONT, also in immediate mode. But if you try to install the POKEs in SUPERFONT, *it won't work.*

SUPERFONT

In a nutshell, SUPERFONT displays typed-in text on the screen in a large hi-res format. Many sizes, styles and colors are possible. You can save your compositions and, if RETRIEVE is on the disk, you can summon them back as well. The instructions for using SUPERFONT are right in the program and appear as soon as it starts running. Any time you forget the commands, use control-O to view them again.

Control-P directs your printer to turn out hi-res pictures. Here's how: If you have an Axiom or Silentype, or any other printer that requires only a couple of control characters to produce hi-res pictures, then, after typing control-P, enter the appropriate printer-activating codes. If non-inputtable characters are needed, stick them into line 24020 of SUPERFONT. When using a slot other than

Listing 2 continued.

```
9128- 24 24 24 24 24 3F 36 36        9248- 36 36 00 49 49 2D 24 3F        9368- 2C 24 2D 24 3F 37 37 3E
9130- 36 36 36 3E 3E 3F 3F 3F        9250- F6 40 10 08 2D 24 2C 2D        9370- 36 37 36 2E 36 35 2E 06
9138- 27 27 24 24 24 24 24 3F        9258- 25 25 25 24 3C 3C 3F 3F        9378- 00 49 29 2D 2C 24 25 2C
9140- 36 36 36 36 36 36 35 35        9260- 3F 3F 3F 3E 3E 36 2E 25        9380- 24 24 27 3C 24 27 3F 37
9148- 00 49 49 2D 24 25 2C 24        9268- 2C 2C 2D 2D 2D 35 3S 37        9388- 2E 35 2E 36 35 3F 36 37
9150- 25 2C 24 25 2C 24 3F 3E        9270- 3F 3F 37 36 36 00 40 C0        9390- 3E 37 06 00 2D 2D 2D 2D
9158- 36 37 3E 36 37 3E 27 3C        9278- 40 01 2D 2D 2D 2D 2D 24        9398- 2D 2D 2D 24 3F 3F 3F 24
9160- 24 27 3C 24 27 3F 36 35        9280- 3F 3F 3F 3F 3F 36 00 40        93A0- 24 24 24 24 24 3F 3E 3F
9168- 2E 36 35 2E 36 35 2E 36        9288- 40 2D 2D 2D 2D 2D 24 3F        93A8- 3E 3F 3E 3E 36 2D 2C 2C
9170- 00 2D 2C 2C 2C 2C 2C 35        9290- 3F 3F 3F 3F F6 40 10 08        93B0- 2C 2C 36 36 36 36 3F 3F
9178- 35 35 35 3S 2D 24 24 24        9298- 2D 2D 2D 2D 2D 24 3F 3F        93B8- 3F 36 00 2D 2D 2D 2D 2D
9180- 24 24 24 24 3F 36 36 36        92A0- 3F 3F 3F 36 00 49 49 2D        93C0- 2D 2D 24 3F 3F 3F 3F 3F
9188- 36 36 27 27 27 27 3F 3E        92A8- 24 24 24 2D 2D 2D 24 3F        93C8- 27 25 25 25 2D 2D 2D 2C
9190- 3F 3E 3E 24 24 24 24 24        92B0- 3F 3F 24 24 24 3F 36 36        93D0- 2C 24 24 27 27 3F 3F 3F
9198- 3F 36 36 36 36 36 36 36        92B8- 3F 3F 3F 36 2D 2D 2D 2D        93D8- 3F 3F 3E 3E 36 2E 25 2C
91A0- 00 2D 2C 2C 2C 2C 2C 35        92C0- 36 36 36 00 2D 2C 2C 2C        93E0- 2C 2D 2D 2D 35 35 3E 3E
91A8- 35 35 35 35 2D 24 27 27        92C8- 2C 2C 2C 2C 2C 24 27 27        93E8- 3F 3F 37 37 37 37 37 37
91B0- 27 27 27 2C 2C 2C 2C 2C        92D0- 2C 24 3F 3E 3E 3E 3E 3E        93F0- 36 00 09 2D 2D 2D 2D 2D
91B8- 24 3F 3E 3E 3E 3E 3F 27        92D8- 3E 3E 3E 3E 3F 3E 3E 36        93F8- 2C 2C 24 3C 3C 24 25 25
91C0- 27 27 27 27 3F 36 35 35        92E0- 00 40 40 40 40 10 08 2D        9400- 24 27 27 3F 3F 3F 3F 3F
91C8- 35 35 35 3E 3E 3E 3E 3F        92E8- 24 24 3F 36 36 4A 09 28        9408- 3E 3E 36 2D 2C 2C 2D 2D
91D0- 36 00 49 49 2D 24 24 24        92F0- 2S 24 3C 37 36 06 00 49        9410- 2D 35 35 37 37 3F 3F 3F
91D8- 24 25 25 25 25 25 25 3F        92F8- 49 2E 2D 2D 2D 2D 2E 2E        9418- 37 2E 2D 2D 2D 2D 2E 2E
91E0- 37 37 37 37 3F 3C 3C 3C        9300- 08 2D 24 3F 36 00 49 49        9420- 3E 3F 3F 3F 27 27 3F 3S
91E8- 3C 3F 2E 2E 2E 2E 2E 2E        9308- 2D 24 3F F6 40 C0 40 2D        9428- 35 35 00 49 49 49 2D 24
91F0- 36 36 36 36 00 24 25 25        9310- 24 3F 36 00 49 29 25 2D        9430- 24 24 2C 2D 24 3F 27 24
91F8- 25 25 25 25 25 25 25 25        9318- 2E 25 2D 2C 2C 24 3C 3C        9438- 24 3F 36 36 3E 3F 3F 3F
9200- 3F 3F 3F 3F 3F 24 2D 20        9320- 27 24 35 35 2D 24 24 27        9440- 24 24 3C 37 36 36 36 2D
9208- 2D 2D 2D 2D 2D 36 37 37        9328- 27 3F 3C 37 3F 3C 37 3F        9448- 2D 2D 35 36 36 36 36 00
9210- 37 37 37 37 37 37 36 36        9330- 3E 3F 36 2E 2E 2E 35 36        9450- 09 2D 2D 2D 2D 2D 2C 2C
9218- 2D 2D 2D 2D 2D 36 3F 3F        9338- 27 27 3F 36 35 35 2D 46        9458- 24 24 3C 3C 3C 3F 3F 3F
9220- 3F 3F 3F 3F 3F 00 49 49        9340- 40 2D 24 3C 37 76 4A 08        9460- .3F 27 24 2D 2D 2D 2D 2D
9228- 2D 24 3F 36 40 49 49 2E        9348- 25 25 27 37 F6 C0 40 10        9468- 2D 24 3F 3F 3F 3F 3F 3F
9230- 2C 24 3F 36 00 49 49 2D        9350- 24 3C 37 36 2D 0A C3 24        9470- 3F 36 3S 36 2E 2D 2D 2D
9238- 24 3F F6 40 18 08 2D 24        9358- 3C 3E 2E 2E 00 49 49 29        9478- 2D 2D 2E 36 3E 3E 3F 3F
9240- 24 24 24 24 3F 36 36 36        9360- 2D 24 3F 24 27 3C 24 25
```

Listing 2 continued.

```
Listing 2 continued.

9480- 3F 27 27 3F 36 35 35 00
9488- 09 2D 2D 2D 2D 2D 2C 2C
9490- 24 24 27 27 3F 3F 3F 3F
9498- 3E 3E 24 24 2C 2C 2D 2D
94A0- 2D 2D 2E 25 3C 3C 3F 3F
94A8- 3F 3F 3F 3E 3E 36 36 36
94B0- 36 36 35 35 40 2D 2D 2D
94B8- 2D 2C 24 27 3F 3F 3F 3E
94C0- 3E 37 35 00 49 09 2D 2C
94C8- 24 25 2C 24 25 2C 24 25
94D0- 25 3C 3F 3F 3F 3F 3F 3F
94D8- 37 2E 2D 2D 2D 2D 35 3E
94E0- 36 37 3E 36 37 3E 36 00
94E8- 09 2D 2D 2D 2D 2D 2C 2C
94F0- 24 3C 3C 24 25 25 24 27
94F8- 27 3F 3F 3F 3F 3F 3E 3E
9500- 36 2E 2E 36 37 37 36 35
9508- 35 40 2D 2D 2D 2D 2C 3C
9510- 3C 3C 3F 3F 37 37 37 75
9518- 40 C0 18 08 2D 2D 2D 2C
9520- 2C 2C 3C 3C 3F 3F 3F 37
9528- 35 35 00 29 2D 2D 2D 2D
9530- 2D 2C 2C 24 24 24 24 24
9538- 27 27 3F 3F 3F 3F 3F 3E
9540- 3E 36 36 2E 2E 2E 2D 2D
9548- 2D 2D 35 3E 3E 3F 3F 3F
9550- 3F 3C 37 2E 06 41 40 C0
9558- 18 08 2D 2D 2D 2D 25 24
9560- 3C 3C 3F 3F 3F 37 37 36
9568- 35 00 2D 2C 2C 2C 2C 2C
9570- 2C 2C 2C 2C 2C 2C 2C 24
9578- 3F 3E 3E 3E 3E 3E 3E 3E
9580- 3E 3E 3E 3E 3E 36 4A 08
9588- 2D 2D 2D 2D 25 25 25 24
9590- 24 24 24 06 D3 36 36 36
9598- 37 3F 3F 3F 05 D8 C3 24
95A0- 24 24 2C 2C 2D 2D 3D 40
95A8- 08 3F 3F 3F 3F 37 37 37
95B0- 36 36 36 36 04 00 07 00
95B8- 40 40 40 40 40 40 2E 2C
95C0- 24 3F 36 00 00 87 87 87
95C8- 87 87 87 87 87 87 87 87
```

#1, make that change in line 24010.
Should you have an Epson printer,

```
+900.920

0800- A9 28 85 3C A9 28 85 3D
0808- A9 FF 85 3E A9 3F 85 3F
0810- A9 00 85 42 A9 40 85 43
0818- 20 00 83 A9 50 8D 02 18
0828- 85 87 A9 40 8D 83 18 85
0828- 08 AD 02 18 C9 D1 AD 83
0830- 18 E9 43 90 26 A0 27 A9
0838- 00 99 D8 5F 88 D0 FA A9
0840- 00 85 3C A9 40 85 3D A9
0848- FF 85 3E A9 5F 85 3F A9
0850- 00 85 42 A9 20 85 43 20
0858- 00 83 60 18 AD 02 18 85
0860- 07 69 81 8D 06 18 AD 83
0868- 18 85 88 69 1C 8D 07 18
0878- A5 07 CD 06 18 A5 00 ED
0878- 07 18 90 03 4C 9A 08 A0
0880- 27 A9 00 91 07 88 D0 FB
0888- 91 07 18 A5 87 69 00 85
0890- 07 A5 08 69 04 85 08 4C
0898- 70 08 18 AD 02 18 69 00
08A0- 8D 02 18 AD 03 18 69 00
08A8- 8D 03 18 4C 29 08 00 00
```

Listing 3. SCROLL!!

or any other requiring special dumping software, then once the screen contains what you want printed, hit control-reset and run your printer dump software. Don't worry about the screen vanishing when you hit reset. It doesn't really vanish, as POKE – 16304,0 and POKE – 16297,0 will quickly prove.

To save a SUPERFONT composition, here is what you do. While in the input part of the program type control-S to start saving what you type. You can't save unless you hit control-S first. Then type until you're done or until you have a normal screenful of 126 characters —whichever comes first. When you're ready to quit, hit control-F to indicate you're finished with your SUPERFONT composition.

There are seven styles of letters to choose from. Your selection is made

using shift-N, except for style #1, which is designated by shift-M. Escape is used for choosing color or scale.

You can go back and fix an error with the color black and the back-space key.

It's possible to create crude animation as compositions are being reproduced with the RETRIEVE program. Also, you can spell a word, go back and erase it, and then redo it in a new color—or change to a new word. This can make a rather nice display when re-created.

> ## "It's possible to create crude animation as compositions are being reproduced."

If you want to retrieve a saved creation, control-R for RETRIEVE sends you to the program of the specified name. The file names of saved SUPERFONT creations are set up to be the letters A through Y, so only 25 compositions can be stored on one disk. However, a bit of program adjustment will make more names possible. There are two to nine sectors in each saved SUPERFONT text file.

If you want a binary picture of any of your creations, just hit control-reset while that picture is on the screen, and then type BSAVE (NAME), $2000, L$1FF8. To retrieve the picture BLOAD it, POKE – 16304,0 and POKE – 16297,0.

Next time we'll look at one of business graphics' neatest tools, the pie chart.

In closing, may I say I hope you will read this issue well. You'll find some news about an upcoming revolution in Apple graphics. I admit to being co-conspirator in this revolution, and I'm very excited about it. ∎

```
0    PRINT  CHR$ (4);"BLOADCHAR"
1    HIMEM: 36095
3    ONERR  GOTO 63995
10   GOTO 5000
1000 ON F GOTO 1001,1003,1004,1005,1010,1015,1020
1001 TX = X:TY = Y:X = 0:Y = 0: FOR X = TX TO TX + (S + (S + (S - 1))): FOR
     Y = TY TO TY - (S + (S + (S - 1))) STEP  - 1: DRAW A AT X,Y: NEXT : NEXT
     :X = TX:Y = TY: RETURN
1003 DRAW A AT X,Y: DRAW A AT X + 2,Y - 2: RETURN
1004 Z = 0: FOR Q = 1 TO 5: DRAW A AT X + Z,Y - 2:Z = Z + 1: NEXT : RETURN
1005 DRAW A AT X,Y: DRAW A AT X + 2,Y - 2: DRAW A AT X + 4,Y - 4: RETURN
1010 TX = X:TY = Y:X = 0:Y = 0: FOR X = TX TO TX + (S + 1): FOR Y = TY TO
     TY - (S + 1) STEP  - 1: DRAW A AT X,Y: NEXT : NEXT :X = TX:Y = TY: RETURN
1015 DRAW A AT X,Y: DRAW A AT X + 1,Y: DRAW A AT X + 2,Y: RETURN
1020 DRAW A AT X,Y: DRAW A AT X + 1,Y - 1: DRAW A AT X + 2,Y - 2: RETURN
5000 POKE  - 16303,0: POKE  - 16298,0: HOME
5300 CLEAR :S = 1: SCALE= S:HH = 3: NCOLOR= HH: ROT= 64:X = 1:Y = 20
5325 CALL 62450
5350 HOME : VTAB 1: INPUT "WHICH DO YOU WANT?(A-Y):";AN$
5360 IF  ASC (AN$) < 65 OR  ASC (AN$) > 89 THEN 5350
5375 NN =  ASC (AN$) - 64
5400 IF SS = 0 THEN  DIM TF$(26): FOR NN = 1 TO 25:TF$(NN) =  CHR$ (64 +
     NN): NEXT :SS = 1
5510 IF TY = 0 THEN  DIM A(127),B(127),SC(127),CL(127),SH(127),F(127):TY =
     1
5520 D$ =  CHR$ (4)
5525 FLASH : HOME : TEXT : VTAB 1: PRINT "PLEASE SWITCH NOW TO YOUR OWN I
     NITIAL-  IZED DISK UPON WHICH YOUR CREATION IS   STORED": NORMAL : GOSUB
     63000
5530 PRINT D$"OPEN";TF$(NN)
5540 PRINT D$"READ";TF$(NN)
5545 INPUT NB
5550 FOR QN = 1 TO NB
5560 INPUT A(QN),B(QN),SC(QN),CL(QN),SH(QN),F(QN)
5565 NEXT
5570 PRINT D$"CLOSE"
5575 HOME : VTAB 1: PRINT "HIT SPACE BAR WHEN YOU'RE THROUGH        LOOKIN
     G.": FOR QQ = 1 TO 1500: NEXT
5578 POKE  - 16304,0: POKE  - 16297,0
5580 FOR QW = 1 TO NB
5590 X = A(QW):Y = B(QW): SCALE= SC(QW): NCOLOR= CL(QW):A = SH(QW): ROT= 6
     4:F = F(QW)
5591 GOSUB 7000
5592 IF F > 0 THEN  GOSUB 1000: NEXT : GOTO 5600
5595 DRAW A AT X,Y: NEXT
5600 KP =  PEEK ( - 16384): IF KP > 127 THEN  POKE  - 16368,0: GOTO 5700
5650 GOTO 5600
5700 POKE  - 16303,0: POKE  - 16298,0: HOME
5702 HOME : VTAB 1: PRINT "DO YOU WANT A PRINT-OUT OF IT?": INPUT "(Y/N):
     ",P$
5705 IF  ASC (P$) = 89 THEN  GOSUB 24000
5710 HOME : VTAB 1: INPUT "DO YOU WANT TO SEE ANOTHER?(Y/N):";RR$: IF RR$
     = "Y" THEN 5730
5720 FLASH : VTAB 1: PRINT "PLEASE SWITCH BACK TO THE PROGRAM DISK   NOW":
     NORMAL : GOSUB 63000: GOTO 5990
5730 GOTO 5300
5990 POKE  - 16304,0: POKE  - 16297,0
5997 NB = 0:F = 0
5998 X = 1:Y = 20:S = 1: SCALE= S: ROT= 64: HCOLOR= 3
5999 CALL 62450:OX = 1:OY = 20:CR = 1:GT& = 1: CALL 1002
6000 D$ =  CHR$ (4)
6010 PRINT D$"RUNSUPERFONT"
7000 IF B(QW) < B(QW - 1) THEN  CALL 62450
7010 RETURN
9000 HOME : TEXT : VTAB 1: PRINT "NOW TYPE THE CTRL CHARACTERS (OR WHAT-
     EVER) THAT DUMP THE HI-RES SCREEN ONTO  YOUR PRINTER. IF YOUR PRINTE
     R DOESN'T DOTHIS THEN DON'T HIT CTRL P IN THIS PROG.": PRINT
9010 PRINT "MAKE SURE YOU HIT RETURN ONCE YOU'RE    DONE TYPING ALL THE C
     TRL CHARACTERS:": PRINT :A9 = 0
9015 PRINT "IF YOU'VE NO PRINTER WITH HI-RES CAPACI-TY HIT RETURN NOW.": PRINT
9020 A9 = A9 + 1: GET CR$(A9): IF  ASC (CR$(A9)) <  > 13 THEN 9020
9030 PRINT  CHR$ (13): POKE  - 16304,0: POKE  - 16297,0: RETURN
24000 D$ =  CHR$ (4)
24002 POKE  - 16303,0: POKE  - 16298,0
24005 GOSUB 9000: IF  ASC (CR$(1)) = 13 AND P$ = "Y" THEN P$ = "": POKE  -
      16303,0: POKE  - 16298,0: RETURN
24010 PRINT D$"PR#1"
24020 FOR H9 = 1 TO A9: PRINT CR$(H9);: NEXT
24030 PRINT D$"PR#0"
24040 IF P$ = "Y" THEN P$ = "": POKE  - 16303,0: POKE  - 16298,0: RETURN
24999 GOTO 5000
63000 PRINT : PRINT "(HIT ANY KEY TO CONTINUE):": PRINT
63010 PP =  PEEK ( - 16384): IF PP > 127 THEN  POKE  - 16368,0: RETURN
63020 GOTO 63010
63995 QP =  PEEK (222): POKE 216,0
63996 IF QP = 6 OR QP = 5 THEN  PRINT : PRINT "SORRY——NO SUCH FILE! TRY
      AGAIN!": PRINT : FOR NQ = 1 TO 1000: NEXT
63997 CR = 0: POKE 760,104: POKE 769,168: POKE 770,104: POKE 771,166: POKE
      772,223: POKE 773,154: POKE 774,72: POKE 775,152: POKE 776,72: POKE 7
      77,96
63998 ONERR  GOTO 63995: IF QP = 5 OR QP = 6 THEN 5350
63999 G$ =  CHR$ (7): PRINT G$: PRINT G$: GOTO 5000
```

Listing 4. RETRIEVE.